



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,619	11/24/2003	Edward Julius Creighton	TS0932 (US)	4247
23632	7590	08/09/2005	EXAMINER	
SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463			SAMPLE, DAVID R	
			ART UNIT	PAPER NUMBER
			1755	
DATE MAILED: 08/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/720,619

**Applicant(s)**

CREYGHTON ET AL.

**Examiner**

David Sample

**Art Unit**

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-16 is/are allowed.
- 6) ☒ Claim(s) 1-11 and 17-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Any rejections and/or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 17 refers to a zeolite Y having a unit cell size of “below 24.40 Å.” This range is not described by the specification as originally filed. This range does not have a lower limit, and therefore, encompasses zeolite Y’s having unit cells as low as 24.40 or 23.80 Å. Such a zeolite was not described by the specification as originally filed. Cf., MPEP 2136.06 III (describing a CAFC case in which the holding was that the range “at least 35” did not have adequate written support when the range of “25 to 60” is disclosed).

Art Unit: 1755

Further as to claim 17, the examiner could not locate a portion of the specification, which describes obtaining distillate products having a boiling point in the range of 150 to 370°C. The examiner could not locate any portion of the specification that refers to this range of boiling points.

***Claim Rejections - 35 USC § 103***

Claims 1-11, 17-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward (US Patent No. 5,536,687) in view of Cooper et al. (US Patent No. 5,242,677).

Ward et al. discloses a hydrocracking catalyst containing zeolite Y and zeolite beta. See the abstract. The zeolite Y should have a unit cell size of less than 24.45 Å. Id. Such catalysts have a higher activity and selectivity for light gasoline and turbine fuel. See col. 3, lines 7-10.

Furthermore, the catalyst most preferably contains both nickel and molybdenum or nickel and tungsten. See col. 8, lines 35-39.

Ward differs from the instant claims by failing to disclose the particulars of the zeolite Y other than to state that the zeolite should have a unit cell size of less than 24.45.

Cooper et al. discloses a zeolite Y having a SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> ratio of 40-70, a surface area of 700-900 m<sup>2</sup>/gm, and a unit cell size of 24.09-24.14 Å. See col. 4, lines 42-45. These ranges overlap the ranges for these properties recited in instant claims 1-4, 9, and 10. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

The reference does not specifically disclose the method of measuring the surface area, however, lacking evidence to the contrary, one of ordinary skill in the art would expect to have the same surface area regardless of the method of measuring the surface area.

Art Unit: 1755

Accordingly, it would have been obvious at the time the invention was made to have used any zeolite Y having a unit cell size of less than 24.45 Å in the catalyst of Ward including the catalyst of Cooper et al. because the resultant catalyst has a higher activity and selectivity for light gasoline and turbine fuel.

As to claim 5, Cooper et al. does not disclose the properties of claim 5, however, one of ordinary skill in the art would expect that the zeolite of the reference would have the claimed properties because the remainder of the properties overlap, and the process recited in the reference performs the same steps as the present invention.

The recitations of instant claims 7, 8, 21, and 25-27 can be found in Ward at col. 3, lines 7-10 and col. 9, lines 64-68.

As to claim 9, Cooper et al. describes a method in which a zeolite Y having a  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratio of 4.5-5.5 is ion exchanged to a  $\text{Na}_2\text{O}$  level of 1-4%. See col. 3, lines 1-15. This zeolite is steam calcined at a temperature of 900-1300° F (i.e., 482-704° C) at a partial pressure of steam of 0.2-1 atm. See col. 2, lines 6-11. Lastly, the zeolite is acid treated. See col. 2, lines 45-49.

The alkali metal levels,  $\text{SiO}_2/\text{Al}_2\text{O}_3$ , and calcining temperature of Cooper et al. overlap the ranges recited in claim 9. Again, overlapping ranges have been held to establish *prima facie* obvious.

Further as to claim 10, Ward discloses hydrocarbon cracking at col. 10, lines 39-58.

The particulars of the hydrocracking process recited in claims 11, 17 and 22 can be found in Ward at column 10 line 39 to column 11, line 25.

Art Unit: 1755

***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

Claims 12-16 are allowed. The prior art fails to disclose or suggest a zeolite Y having the combination of recited properties.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

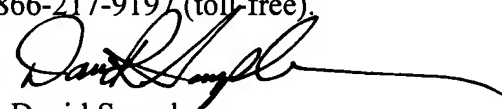
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1755

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (572)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Sample  
Primary Examiner  
Art Unit 1755